

Application Serial No. 10/567,617  
Attorney Docket No. 10191/4140  
Reply to Office Action of January 28, 2008

**Amendments to the Drawings:**

The attached two Replacement Sheets replace the previous sheets containing Figs. 2 and 3. In Figs. 2 and 3, hand-written characters have been replaced with typed characters. No new matter has been added.

Attachment: 2 Replacement Sheets

**REMARKS**

**I. Introduction**

Claims 7 to 13 are now pending in the present application (contrary to the Examiner's indication that claims 7-12 are pending). Claim 7 has been amended. Applicants hereby respectfully request further examination and reconsideration of the application.

Applicants note with appreciation the acknowledgment of the claim for foreign priority, and the indication that all certified copies of the priority documents have been received.

**II. Objection to the Drawings**

In response to the Examiner's comment that "the handwritten voltage names are indistinct," Applicants have provided formal drawings for Figs. 2 and 3, thereby obviating the basis for the Examiner's objection.

**III. Rejection of Claims 7 to 13 under 35 U.S.C. § 112, ¶ 2**

Claims 7 to 13 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In connection with the indefiniteness rejection, the Examiner contends that it is unclear how the various voltages are set, i.e., the Examiner states that  $U_{control}$  and  $\Delta U_{setpoint}$  noted in the specification appear to be entirely arbitrary. However, Applicants submit that the specification clearly discusses how these voltages are set. For example, at page 6, lines 8-11 and 18, the Substitute Specification clearly explains that  $U_{control}$  is the measured, final steady-state voltage, and that  $\Delta U_{setpoint}$  is a predefined quantity which correlates with the required actuator excursion of an injector that has not drifted. Accordingly,  $U_{control}$  is not arbitrary since it is a measured value of the steady-state actuator voltage. Furthermore,  $\Delta U_{setpoint}$  is also not arbitrary since it is a predefined quantity that represents the voltage difference between the cutoff-voltage threshold and the steady-state voltage of an actuator that is performing nominally.

Examiner also contends that no ability to determine the conformity of  $U_{\text{setpointcorr}}$  and  $U_{\text{control}}$  is possible in figure 3. In response, Applicants have clearly indicated in Figure 3 that a comparison of  $U_{\text{setpointcorr}}$  and  $U_{\text{control}}$  takes place.

In addition, to further clarify the claimed subject matter, independent claim 7 has been amended to recite, in relevant parts, “controlling a drift of the activation voltage required for a predefined lift of a control valve of the injector on an injector-specific basis by controlling a difference between a cutoff-voltage threshold and a final steady-state voltage to a setpoint value for the difference between the cutoff-voltage threshold and the final steady-state voltage predefined for one operating point.” Accordingly, it is clear that the goal of the claimed method is to achieve a predefined setpoint value ( $\Delta U_{\text{setpoint}}$ ) for the difference between the cutoff-voltage threshold ( $U_{\text{cutoff}}$ ) and the steady-state voltage ( $U_{\text{control}}$ ).

For at least the foregoing reasons, it is respectfully submitted that the 35 U.S.C. § 112, second paragraph, rejection of claim 7 and its dependent claims 8-13 should be withdrawn. Withdrawal of this rejection is therefore respectfully requested.

#### **IV. Rejection of Claims 7 to 13 under 35 U.S.C. §102(b)**

Claims 7 to 13 were rejected under 35 U.S.C. §102(b) as being anticipated by European Patent No. 1 138 909 (“Rueger”). Applicants respectfully submit that the rejection should be withdrawn for at least the following reasons.

In order to reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (See Scripps Clinic & Research Foundation v. Genentech, Inc., 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter. (See Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)). To the extent that the Examiner may be relying on the doctrine of inherent disclosure, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112;

emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'l. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherence of that result or characteristic.

Amended claim 7 recites, in relevant parts, “**controlling a drift of the activation voltage** required for a predefined lift of a control valve of the injector **on an injector-specific basis** by controlling a difference between a **cutoff-voltage threshold** and a **final steady-state voltage** to a setpoint value for the difference between the cutoff-voltage threshold and the final steady-state voltage predefined for one operating point.” Accordingly, to compensate for the voltage requirement drift, the difference between the cutoff-voltage threshold and the steady-state voltage is controlled to a desired value, i.e., a setpoint value for the difference. This ensures that the required, nominal actuator excursion is attained, and thereby enables proper operation of the injector over its entire lifetime.

The applied Rueger discloses a system and method for achieving a maximum volume of fuel injection by charging and/or discharging the piezoelectric element to a desired voltage. Although Rueger does utilize a difference (“voltage difference deviation”) in the disclosed method, the difference disclosed in Rueger is fundamentally unrelated to the  $\Delta U_{\text{setpoint}}$  in the present application, i.e., the “voltage difference deviation” of Rueger is not a difference between two actual quantities of a single injector. For example, as disclosed in paragraph 86 and Fig. 8 of Rueger, the “voltage difference deviation” is just the difference between the actual value and a desired value, which difference is used to correct the actual value. In addition, as described in paragraph 88 of Rueger, the “voltage difference deviation” can compare the voltages of two injectors and correct the voltages based on this comparison. However, it is clear that neither of these “voltage difference deviations” discloses or suggests the claimed feature of “controlling a difference between a **cutoff-voltage threshold** and a **final steady-state voltage** to a **setpoint value**.”

In summary, it is clear that Rueger does not disclose or suggest: (1) determining a difference between a cutoff-voltage threshold and a final steady-state voltage; and (2) controlling this difference to a predefined setpoint value. Rueger merely compares the

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steady-state voltage to a desired value and corrects for the difference. Alternatively, Rueger compares the steady-state voltage of one injector to that of another. Neither of these embodiments of Rueger anticipates claim 7.

For at least the foregoing reasons, claim 7 and its dependent claims 8 to 13 are allowable over Rueger.

**Conclusion**

In view of the foregoing, it is respectfully submitted that pending claims 7 to 13 are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is respectfully requested.

Respectfully submitted,

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